

**From:** Zavala, Bernie  
**Sent:** Friday, December 20, 2013 1:13 PM  
**To:** Rochlin, Kevin; Douglas.Tanner; Scott Miller; Greutert, Ed [USA]  
**Subject:** EPA responses to FMC's responses on the Hydro study comments and my discussion & resolution with Rob

**Follow Up Flag:** Follow up  
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To all:

During our FMC team conference call (12/12/2013) Kevin asked for me to put together a short couple of paragraphs regarding two items: (1) The list of analytes which will be sampled in the groundwater prior to the aquifer testing and (2) how that data will be used to support the disposal of the purge water during the aquifer testing. The work plan for the hydrogeologic study doesn't include the groundwater sampling for all of the COC's (Table 8: COC's in Groundwater and cleanup levels for the FMC OU) for the three newly installed extraction wells (EW-01, 02 and 03).

The list of analytes that should be sampled for prior to the aquifer test can be found on *Table 8: Contaminants of Concern in Groundwater and Cleanup for the FMC OU* from the EPA Final Interim ROD Amendment August 2012. Also, EPA had FMC conduct a groundwater sampling of COCs in the spring of 2008 call a special sampling event. The data from this sampling event April 2008 will provide us a snap shot of the water quality that is moving through the FMC facility. EPA will also request FMC to sample the new installed extraction well (3) and have the results available prior to the disposal of the groundwater from the aquifer test at the facility. Kevin mentioned that Rob Hartman, MWH for FMC and I would discuss closure on the comments that FMC needed additional clarification regarding the FMC Hydrogeologic Study work plan.

On Tuesday December 17<sup>th</sup> Rob Hartman, MWH for FMC sent me an email and wanted to discuss some of the comments to gain better clarification on what is needed. The email list two comments:

**Specific comments**

**Comment #1**

*The FMC response is correct that the text did give a general description on the number of samples being collected but the QA samples were not included. A table similar to the table below (Field Sampling Summary) shall be included in section 3 after 3.5.2. This would address the comment. The table below would be an example of what EPA's is expecting.*

Resolution: Add the required table.

*Clarification / discussion: The example table includes field qc samples; however, due to the relatively limited number of samples, no field qc samples are proposed in the work plan.*

**Comment #12 (two parts)**

**Part 2:**

*EPA is still not clear on the logistics on how the purge water will be managed during the 72-aquifer test. EPA agrees based on the water quality from the monitoring wells the purge water is non-hazardous. EPA is expecting a short description of the handling of the water and where it will be stored until it can be used for dust control. Sampling may be required depending on how FMC intends to store water prior to spreading.*

Resolution: Amend the document to more fully describe water disposal. Sampling per EPA requirements if EPA determines that it is necessary.

*Clarification / discussion: Would like to understand what sampling might be "necessary" in addition to the sampling/analyses included in the work plan up front so if determined to be necessary it can be included in the plan (and QAPP).*

*I am available this afternoon other than 3 to 4 MST (2 to 3 PST) and any time tomorrow to discuss. Thanks, Rob*

Rob and I had the call on Wednesday (12/18) and we had a good discussion and came to an agreement regarding these two comments and he (FMC) will revised the work plan and we should get this revised work plan either prior to or on January 10, 2014. The following is the resolution on these comments:

**Comment #1:**

FMC will include one QA sample to meet the requirements for collection of QA samples, 1 per 10 field samples (duplicate sample for extraction well EW-1). FMC will also collect a MS/MSD from the extraction well EW-02. The COCs will be from Table 8 of the EPA interim ROD amendment August 2012 or the same parameters they collected during the special sampling event that occurred in 2Q 2008. Rob also mentioned that same list of parameters were also collected in the groundwater sampling event in 2012. Rob said that FMC was planning on collecting water samples after well development from the three extraction wells and send them to lab for analysis using the COCs list from 2008 & 2012.

I believe this information on the water quality will inform us on how to disposal of the groundwater during the 72-hour aquifer test and the QA requirement will also be met with the new updated work plan for comment #1.

**Comment #12:**

Rob said that the revised work plan will fully describe the disposal of the groundwater during the 72-hour aquifer test and as mentioned above in comment #1 there will be enough water quality information from 2008, 2012 and the current sampling that will take place for EW-1, 2 & 3 after well development to make a decision on the disposal of the groundwater.

I concur with this approach.

Please let me know if you have any questions.

Bernie Zavala

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